SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers
Product name: 3-Amino-1,2,4-triazole

Product Number: A8056
Brand: Sigma
Index-No.: 613-011-00-6
REACH No.: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No.: 61-82-5

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet
Company: Sigma-Aldrich Chemie BV
Stationsplein 4
3331 LL ZWIJNDRECHT
NETHERLANDS

Telephone: +31 78-620-5411
Fax: +31 78-620-5421
E-mail address: eurtechserv@sial.com

1.4 Emergency telephone number
Emergency Phone #: 112

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Reproductive toxicity (Category 2), H361d
Specific target organ toxicity - repeated exposure (Category 2), H373
Chronic aquatic toxicity (Category 2), H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

R63
Xn Harmful R48/22
N Dangerous for the environment R51/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements
Labelling according Regulation (EC) No 1272/2008
Pictogram
Signal word  Warning

Hazard statement(s)  
H361d  Suspected of damaging the unborn child.
H373  May cause damage to organs through prolonged or repeated exposure.
H411  Toxic to aquatic life with long lasting effects.

Precautionary statement(s)  
P273  Avoid release to the environment.
P281  Use personal protective equipment as required.

Supplemental Hazard Statements  none

2.3  Other hazards - none

SECTION 3: Composition/information on ingredients

3.1  Substances

<table>
<thead>
<tr>
<th>Substances</th>
<th>Synonyms</th>
<th>Formula</th>
<th>Molecular Weight</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,2,4-Triazol-3-amine</td>
<td>C_2H_4N_4</td>
<td>84,08 g/mol</td>
<td>61-82-5</td>
<td>200-521-5</td>
<td>613-011-00-6</td>
</tr>
</tbody>
</table>

Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
</table>
| Amitrole   | Repr. 2; STOT RE 2; Aquatic Chronic 2; H361d, H373, H411 | <= 100 %

Hazardous ingredients according to Directive 1999/45/EC

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
</table>
| Amitrole   | Xn, N, Repr.Cat.3, R48/22 - R63 - R51/53 | <= 100 %

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1  Description of first aid measures

General advice  
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled  
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact  
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact  
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
no data available

SECTION 5: Firefighting measures
5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides, nitrogen oxides (NOx)

5.3 Advice for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information
no data available

SECTION 6: Accidental release measures
6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage
7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
Recommended storage temperature: -20 °C

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0,11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0,11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection
impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance Form: solid
b) Odour no data available
c) Odour Threshold no data available
d) pH no data available
e) Melting point/freezing point
   Melting point/range: 150 - 153 °C - lit.
f) Initial boiling point and boiling range no data available
g) Flash point no data available
h) Evaporation rate no data available
i) Flammability (solid, gas) no data available
j) Upper/lower flammability or explosive limits no data available
k) Vapour pressure no data available
l) Vapour density no data available
m) Relative density no data available
n) Water solubility no data available
o) Partition coefficient: n-octanol/water log Pow: -0.969 at 23 °C
p) Auto-ignition temperature no data available
q) Decomposition temperature no data available
r) Viscosity no data available
s) Explosive properties no data available
t) Oxidizing properties no data available

9.2 Other safety information
   no data available

SECTION 10: Stability and reactivity

10.1 Reactivity
   no data available

10.2 Chemical stability
   Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
   no data available

10.4 Conditions to avoid
   no data available

10.5 Incompatible materials
   Strong oxidizing agents, Strong acids, Copper, Iron and iron salts.

10.6 Hazardous decomposition products
   Other decomposition products - no data available
SECTION 11: Toxicological information

11.1 Information on toxicological effects

**Acute toxicity**
LD50 Oral - rat - 25.000 mg/kg
LC50 Inhalation - rat - 4 h - > 400 mg/m3
LD50 Dermal - rat - > 10.000 mg/kg

**Skin corrosion/irritation**
Skin - rabbit
Result: Mild skin irritation

**Serious eye damage/eye irritation**
Eyes - rabbit
Result: Mild eye irritation

**Respiratory or skin sensitisation**
no data available

**Germ cell mutagenicity**
In vivo tests showed mutagenic effects

**Carcinogenicity**
This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

| IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Amitrole) |

**Reproductive toxicity**
Possible risk of congenital malformation in the fetus.
Suspected human reproductive toxicant

**Specific target organ toxicity - single exposure**
no data available

**Specific target organ toxicity - repeated exposure**
no data available

**Aspiration hazard**
no data available

**Additional Information**
RTECS: XZ3850000
Liver - Irregularities - Based on Human Evidence

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish  
LC50 - Pimephales promelas (fathead minnow) - > 100 mg/l - 96,0 h

Toxicity to daphnia and other aquatic invertebrates  
EC50 - Daphnia magna (Water flea) - 30 mg/l - 48 h

Toxicity to algae  
EC50 - Desmodesmus subspicatus (green algae) - 11,4 mg/l - 96 h

12.2 Persistence and degradability

Biodegradability  
Result: 0 % - According to the results of tests of biodegradability this product is not readily biodegradable.
12.3 Bioaccumulative potential
no data available

12.4 Mobility in soil
no data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
Toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 3077  IMDG: 3077  IATA: 3077

14.2 UN proper shipping name
ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Amitrole) (Amitrole)
IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Amitrole) (Amitrole)
IATA: Environmentally hazardous substance, solid, n.o.s. (Amitrole) (Amitrole)

14.3 Transport hazard class(es)
ADR/RID: 9  IMDG: 9  IATA: 9

14.4 Packaging group
ADR/RID: III  IMDG: III  IATA: III

14.5 Environmental hazards
ADR/RID: yes  IMDG Marine pollutant: yes  IATA: yes

14.6 Special precautions for user

Further information
EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
no data available

15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.
Aquatic Chronic  Chronic aquatic toxicity
H361d  Suspected of damaging the unborn child.
H373  May cause damage to organs through prolonged or repeated exposure.
H411  Toxic to aquatic life with long lasting effects.
Repr.  Reproductive toxicity
STOT RE  Specific target organ toxicity - repeated exposure

Full text of R-phrases referred to under sections 2 and 3

N  Dangerous for the environment
Xn  Harmful
R48/22  Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R51/53  Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R63  Possible risk of harm to the unborn child.
Repr.Cat.3  Toxic to Reproduction Category 3

Further information
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